

**Alaska Department of Fish and Game  
Division of Wildlife Conservation  
October 2004**

## **Development and Testing of Breakaway Snares**

**Craig Gardner  
Mark McNay**

**Research Annual Performance Report  
1 July 2003–30 June 2004  
Federal Aid in Wildlife Restoration  
Grant W-33-2  
Project 15.12**

This is an interim progress report, and information may be refined at a later date.  
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**FEDERAL AID  
ANNUAL RESEARCH PERFORMANCE REPORT**

ALASKA DEPARTMENT OF FISH AND GAME  
DIVISION OF WILDLIFE CONSERVATION  
PO Box 25526  
Juneau, AK 99802-5526

**PROJECT TITLE:** Development and testing of breakaway snares

**PRINCIPAL INVESTIGATOR:** Craig Gardner and Mark McNay

**COOPERATORS** None

**FEDERAL AID GRANT PROGRAM:** Wildlife Restoration

**GRANT AND SEGMENT NR:** W-33-2

**PROJECT NR:** 15.12

**WORK LOCATION:** Units 20A, 20B, and 20E

**STATE:** Alaska

**PERIOD:** 1 July 2003–30 June 2004

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**I. PROGRESS ON PROJECT OBJECTIVES SINCE PROJECT INCEPTION**

OBJECTIVE 1: To develop breakaway snares with a variety of breaking strengths optimizing snare selectivity for target species and allowing the trapper more flexibility in snaring areas with different ungulate densities.

During the report period, we expanded the project objective. There are 2 ways to reduce inadvertent capture of ungulates in snares: 1) modify the snare in a manner that allows ungulates to escape but restrain the target furbearer and 2) develop a snare that precludes ungulates from being caught. Previous efforts to develop breakaway snares have primarily focused on developing locks that break at a certain force. This concept has been successful for snares < 3/32" but has had limited success for wolf snares that require larger cable and locks because adult wolves, moose and caribou are able to generate similar forces once caught in a snare. Another issue is that a wide variety of locks are used by wolf trappers and it is difficult to find breakaway mechanisms for all types. For these 2 reasons, we are now trying to develop a snare that is accessible to wolves but not to most ungulates and contains a break-away mechanism not dependant on the lock breaking. If successful, both leg and nose catches of ungulates will decline and trappers will be able to continue to use their preferred snare and lock combinations.

Edited Oct-04

Please note: This is a progress report and the information contained within may be further analyzed and refined.

## **II. SUMMARY OF WORK COMPLETED ON JOBS IDENTIFIED IN ANNUAL PLAN THIS PERIOD**

### JOB 1: Develop breakaway snares in laboratory tests

We developed 2 prototype breakaway test snares from cable of  $\geq 3/32$ " with breaking strengths ranging from 600-750 pounds. Testing is ongoing. We also developed a mechanism that may result in the wolf snare being less accessible to ungulates but not to wolves. We will be field testing this design during fall, 2004. Federal Aid funds were used to purchase snare and lock materials and pay salaries while working on this job.

### JOB 2: Collecting and analyzing data on captured wolves, caribou, moose and other furbearers

Field testing prototype snares will occur during FY05. No Federal Aid funds were used to complete this task during FY04.

### JOB 3: Data analysis and reporting

This was the first year of this project. We reviewed the literature on use of breakaway mechanisms to reduce non target capture of furbearers. We also reviewed regulations by fish and game agencies from other states which require use of breakaway mechanisms, and explored the accessibility of commercial snares that provide breakaway mechanisms.

## **III. ADDITIONAL FEDERAL AID-FUNDED WORK NOT DESCRIBED ABOVE THAT WAS ACCOMPLISHED ON THIS PROJECT DURING THIS SEGMENT PERIOD**

We expanded upon the project objective by also testing snares designed to catch coyotes, fox, and lynx. We constructed snares using cable ( $< 3/32$ ") and locks designed to catch coyotes, lynx, and fox that are commonly used by Alaskan trappers. We modified the snares by cutting a portion of the lock. In the laboratory all of the modified locks released when  $\geq 300$  pounds of pressure was applied. In our control sample of unmodified locks the breaking point was significantly higher. The modified locks should allow ungulates to escape, but still restrain coyotes, fox, and lynx. We also found that anchor wire  $\geq 11$  gauge was necessary to preclude the anchor wire from breaking before the lock broke.

## **IV. PUBLICATIONS**

None

## **V. RECOMMENDATIONS FOR THIS PROJECT**

Current budget constraints will result in reduced field testing. Ideally field testing would be accomplished through a cooperative effort with active trappers, but funds must be available to provide an incentive for trappers to participate in the program.

## **VI. APPENDIX**

None

**VII. PROJECT COSTS FOR THIS SEGMENT PERIOD**

FEDERAL AID SHARE \$ 13,952 STATE SHARE \$ 4,560 = TOTAL \$ 18,602

**VIII. PREPARED BY:**

Craig Gardner  
Wildlife Biologist III

**SUBMITTED BY:**

Mark E. McNay  
Research Coordinator

**APPROVED BY:**

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Thomas W. Paul  
Federal Aid Coordinator  
Division of Wildlife Conservation

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Matthew H. Robus, Director  
Division of Wildlife Conservation

**APPROVAL DATE:** \_\_\_\_\_